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ABSTRACT

The intent of this paper is to provide geography educators and researchers with insights into creating a "geography of the future." Among the insights of major interest to geographers (including students, teachers, researchers, and other professional geographers) are that altered states of consciousness (such as often brought on by hallucinogens) can help one experience alternative realities: computer-based statistical/mathematical techniques can be helpful but should not be unthinkingly used to define or elucidate geographic concepts: geographers should concentrate on developing their senses and sensibilities rather than directing their out-of-class energies entirely to geography field trips: geographers should adopt research modes characteristic of futuristic research--i.e. synthesis rather than analysis and intuitive insight rather than deductive logic: and, finally, the discipline of geography in the future might avail itself of the image-generating capacity of the rapidly evolving electronic environment, including, for example, holographic images, and the biofeedback of brain waves in the form of visual and auditory imagery. The conclusion is, that to make the fullest possible use of these insights when thinking about the future of their discipline, geographers should concentrate on the need to change perspective completely and to try and create the type of future they desire. (DB)

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THE PEDAGOGICAL IMPLICATIONS OF A FUTURES PROGRAM IN GEOGRAPHY

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Special Session on Futures Research
Annual Meeting of the Association of
American Geographers
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It is over ten years since I first expressed the opinion that geography was destined to become a design science (McDaniel, 1975, 63). Subsequent events have only served to reinforce that view. It may be useful to review past trends, and a recent book by Gregory (1978) provides an evolutionary context. The last three decades have been a period during which geography has become immersed in current scientific and philosophical thought.

During the 50s we advanced beyond an emphasis on description to adopt an empirical-analytical approach motivated by a desire for technical control. The 60s were a period of questioning and re-appraisal strongly influenced by the ideas of existentialism and phenomenology and motivated by a need for mutual understanding. Thence, in the 70s, in a more socially-aware mode we began to seek a purpose, became more critical and espoused the goal of emancipation. Marxism and Anarchism served some as guides while others sought virtue in environmental and technological impact studies.

As we now enter the 80s we appear ready to adopt the mind-set of a design science motivated by a deep concern for human destiny. Caught up in the metaphor of a global electronic surveillance system we may seek to transcend the prison of obsolescent concepts which currently constrain us. We are preparing to design and control our own evolution.

It is perhaps not surprising that one of the first geographers to formally urge the creation of "future geographies" is Garrison (1973, 237-249) who played a major role in initiating the first of the earlier noted conceptual shifts in geography. However, Garrison and several other geographers, who have written of the role of futures studies in geography (e.g. Berube, 1978; Johnson, 1974; Klee, 1975; Nunley, 1979; Brunn, 1973; Austin, 1979;

Ryan, 1975; Zelinsky, 1970) have not so directly advocated the creation of desirable futures as the sociologist Huber has done:

> "Instead of devoting our energies to trying to predict just how marvelous, or terrible, the future will be, it might be far more fruitful to change perspective completely and try to create (emphasis in original) the type of future we desire."
> (Huber, 1974)

If we are to create a "geography of the future" then some thought should be given to the curriculum of the "future of geography". Probably in everyone's mind is the association of "design" with "creativity". Formal attempts to rigorously investigate the process of creation (or invention) are reported in the Journal of Creative Behavior. Many books written for industrial designers, engineers and architects may be consulted. The idea-generating techniques of lateral thinking (DeBono, 1971), synectics (Gordon, 1968) and brainstorming may be used to inspire fresh viewpoints or transcendence. Altered states of consciousness may be induced through judicious use of psychopharmacological agents and/or meditative practices in order to experience alternative realities. Just as we may have to overcome a bias against teleology (Mumford, 1956, 172) so may we have to overcome a bias against the technology of hallucinogenics. We may recognize in this a parallel bias against quantitative methods and computers which exists in some quarters. However, just as we should caution students against the unthinking use of easily accessible computer-based statistical/mathematical packages so mood-altering techniques should not be attempted willy-nilly. Some persons may embody in their natures perceptive states of consciousness which need not be induced artificially. Artists (musicians, poets, painters) may serve as the antennae of society in being sensitive to social currents of which most of us are oblivious. The products of such people may provide access to insights through our conventional senses. Many students may be

both pleased and surprised to discover that their avocational interests have equipped them to be insightful futures-creators!

At present, hypotheses are generated which are then matched against past reality; in future, "futures" may be created as templates for making reality. An analogous situation in the field of art may be recognized when paintings in the Commercial-Industrial Era tended to match reality with photograph-like precision; later, more abstract art tended to make reality by providing insight into events and processes to which the average person was insensitive. This view has its roots in the thought of Marshall McLuhan who also observed that in coping with fluxing complex systems classification is useless and must be replaced by pattern-recognition. The psychedelic images of computer graphics may be more appropriate training aids for the geographer desirous of sharpening his/her pattern-recognizing skills than grouping algorithms.

An exposure to General Systems Theory can atune the futurist to the role of metaphor and analogy in the perception of patterns. As Hall (1976) has argued we must move "beyond culture" in order to escape the out-moded metaphors and myths which subconsciously constrain our perception of alternative realities. Rather than field trips, geographers ought to participate in more "feel" trips to better appreciate the bonds of their consciousnesses. Olsson (1977) in particular has displayed an awareness of this subversive influence. How will our image of reality change as the transportation-based metaphor of distance-decay is replaced by telematic instant-access?

The simple hierarchy of bureaucracy and central places is being replaced by a complex heterarchy (Schwartz and Ottavy, 1980). This is evident, too, in the blurring of the life-stages of education, work and leisure. Financial shortfalls are hastening the adaptation of the

universities to the needs of a graying and violence-beset America. Global survival may require that universities assume the responsibility of designing new societies, i.e. generating (creating) alternative futures. Just as invention has become institutionalized in large private and public research and development establishments, so may we see the formal institutionalization of utopia construction (invention). But there must be a difference. In a time when society's thinkers were very few the elitist "ivory tower" may have been acceptable, but as the proliferation of educated, articulate groups of activists makes abundantly clear, we now have a society of thinkers. If "futures" are to be created it must not be the preserve of a few enlightened, duly accredited futurists. The whole population must be involved and their cooperation actively solicited. Interpersonal skills may have to be consciously cultivated:

> "We should help our students develop the necessary interpersonal competencies, which would include at least the following: (1) learning how to develop intense and deep human relationships quickly -- and learn how to 'let go'; (2) learning how to enter groups and leave them; (3) learning what roles are satisfying and how to attain them ...; (4) learning how to widen the repertory of feelings and roles available; (5) learning how to cope more readily with ambiguity; (6) learning how to develop a strategic comprehensibility of a new 'culture' or system and what distinguishes it from other cultures; and, finally; (7) learning how to develop a sense of one's uniqueness."
>
> (Bennis and Slater, 1968, 127-128)

The characteristic research mode of the futurist is one of synthesis rather than analysis, of intuitive insight rather than deductive logic, of a tolerance for ambiguity and complexity rather than seeking for determinacy and simplicity. These are the hallmarks of an emergent paradigm in what may have been the hardest of the "hard sciences", physics, a discipline which many geographers have sought to emulate (Blair, 1975; Zukav, 1980). A concern for machine-like linkages is metamorphosed into

an awareness of the harmonics of interference patterns. Since we only "see" what is filtered through our repressed metaphors, what new visions of reality may emerge as a result of metaphoric shift? The futurist must be sensitive to such a process.

An interest in and tolerance for the uncertain research into the paranormal (astral projection, precognition, remote viewing, psychokinetics, etc.) may be transformed from seeking evidence of its existence to the explicit "invention" and/or cultivation of such skills. Geographers may be particularly involved in seeking and adapting to the rhythms of Gaia (the view that earth is a living organism) (Lovelock, 1979), the leys (energy flows) of Britain (Pennick, 1978) and the geomantic practices of the Orient (Feuchtwang, 1974). Here, again, we must be conscious of the metaphoric impact of such studies, taking note of the subtle import of the words of the anthropologist, Carpenter (1970): They became what they beheld. One of the more surprising possibilities which has surfaced in physics is that the many new particles which have been discovered may be the self-fulfilling manifestation of those very thought processes which posit their existence (Capra, 1976, 318)!

The settlement of space for purposes of military and civilian surveillance, the manufacturing of materials and biotechnics, and solar power generation may well provide the most pragmatic application of geographic design. The design of the spatial organization of the space settlements, especially as the latter reach sizes intended to accommodate several thousands of people, should involve geographers (Millward, 1979). The knowledge and skills acquired through such activity would almost certainly be applied to terrestrial problems.

An enantiodromia which may emerge as we endeavour to create the future is that of "colonizing" the timespace of our descendents through the long run repercussions of our present actions (Dator, 1975). We may condemn them to early deaths through decisions taken today to create a desired lifestyle in our future. Thus complementing the emergent ecological ethic should be the inculcation of a posterity-influenced ethic. Had such an ethic prevailed in the past we might not currently be threatened by excessive numbers of automobiles, acid rain, and dehumanizing cities .

Rather than logic guiding the machine-like assembly of a preferred future, we may trust our deeply conscious sensibility to induce its morphogenesis. Ophuls (1977, 228) has presented a valuable insight in his observation that planners attempt to manage the detail of the developmental process, while designers (concerned with achieving effect) limit themselves to the establishment of criteria within which the system can evolve its own destiny.

Geography in the future may avail itself of the image-generating capacity of our rapidly evolving electronic environment. Our collective consciousness may become metaphorically receptive to such "imaging" as visual display terminals/theatres of increasing sophistication become an accepted part of our domestic ground. The forerunners of such systems today may be observed in the graphical displays which add realism to the control simulators of air/space craft and ships used for the training of their respective pilots. The "maps" of the future may be such holographic images in which we may experience our collectively-generated futures. Again, precursor technology is evident in the biofeedback of brain waves in the form of visual and auditory imagery (Rorvik, 1971; Clynes, 1977).

The present is the shimmering interference pattern created by the confluence of waves from the past and from the future, and from that paratemporal realm which may be the source of our innermost values. The nurturing of geographers in the science of logic, the art of insight and the sense of mystery will prepare them well to move into the Aquarian Age.

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